

**PATENTABILITY REMARKS**

**35 U.S.C. §112. FIRST PARAGRAPH**

The examiner rejected claim 40 under 35 U.S.C. §112, first paragraph as allegedly containing subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventors, at the time of filing, had possession of the claimed invention. Specifically, it is the examiner's position that there is (allegedly) no support in the specification for the ilvC gene encoding ketopantoate reductase activity.

The applicants respectfully traverse this rejection and submit that in view of the foregoing amendment to claim 40 the rejection is now moot. Specifically and solely for the purposes of expediting prosecution and without prejudice to the applicants right to seek a similar claim in a duly filed continuing application, the applicants have amended claim 40 to remove the language "having ketopantoate reductase activity." In view of the foregoing, the applicants request that this rejection of claim 40 be withdrawn.

**35 U.S.C. §112, SECOND PARAGRAPH**

The examiner rejected claims 35, 36, 40, and 43 under 35 U.S.C. §112, second paragraph as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter that the applicants regard as their invention. Claims 35 and 36 were rejected as allegedly being indefinite in that there was no clear linkage between the structural gene and overexpression of the ketopantoate activity. With respect to claim 40, the examiner alleged that while the prior art teaches that ilvC has isomeroreductase activity, it is unclear from the specification that the ilvC gene encodes a protein having ketopantoate reductase activity. Finally, with respect to claim 43, the examiner alleged that there is no clear and positive prior antecedent basis for the term "said gene."

The applicants respectfully traverse the rejection and submit that in view of the foregoing amendment to the claims the present rejection is now moot. With regard to claims 35 and 36, the applicants have amended these claims to more clearly define the subject matter encompassed by their invention, *i.e.*, more clearly defining the linkage between the structural gene and overexpression. Regarding claim 40, as discussed above with respect to the rejection based upon 35 U.S.C. §112, first paragraph, the applicants have amended claim 40 to remove the language referred to by the examiner. Finally, with respect to claim 43, the

applicants have amended the claim to replace the language referred to by the examiner, *i.e.*, “said gene” and have further defined the gene.

## **CONCLUSION**

The applicants request entry of the foregoing amendment in that the such amendments specifically address and overcome the rejections of the outstanding official action.

In view of the foregoing, the claims are now believed to be in a condition for allowance, and such action is hereby solicited. If any point remains in issue which the examiner feels may be best resolved through a personal or telephone interview, please contact the undersigned at the telephone number listed below.

All objections and rejections having been addressed, it is respectfully submitted that the present application is in a condition for allowance and a notice to that effect is earnestly solicited.

Respectfully submitted,

## PILLSBURY WINTHROP LLP

By: 

Thomas A. Cawley, Jr., Ph.D.  
Reg. No.: 40,944  
Tel. No.: (703) 905-2144  
Fax No.: (703) 905-2500

TAC\smm  
1600 Tysons Boulevard  
McLean, VA 22102  
(703) 905-2000

Enclosures: **Appendix**  
**Supplemental Declaration**

APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

The claims are amended as follows:

35. (Amended) The process of claim 30, wherein [overexpression] over-expression is achieved by mutating a promoter or other regulatory element controlling coding sequences of a structural gene that prompts pantothenic acid production, the promoter or other regulatory element being located upstream of [a] the structural gene.

36. (Amended) The process of claim 30, wherein [overexpression] over-expression is achieved by incorporating an expression cassette upstream of said panE [a structural] gene, thereby increasing the copy number of expressed panE genes over the level expressed in pantothenic acid-producing microorganisms lacking said expression cassette.

40. (Amended) The process of claim 29, wherein said microorganism [overexpresses] over-expresses at least one protein selected from the group consisting of: the protein having ketopantoate reductase activity encoded by the panE gene of *Escherichia coli*; the protein [having ketopantoate reductase activity] encoded by the ilvC gene of *Corynebacterium glutamicum*; and the protein having ketopantoate reductase activity encoded by the YHR063c reading frame of *Saccharomyces cerevisiae*.

43. (Amended) The process of claim [42] 41, wherein said microorganism is transformed with a plasmid vector comprising [said] at least one gene of the metabolic path of pantothenic acid formation selected from the group consisting of: ketopantoate hydroxymethyltransferase; aspartate 1-decarboxylase and pantothenate synthase.

End of Appendix